CLAIMS

We claim:

1. An isolated polypeptide, comprising an amino acid sequence selected from the group consisting of: (a) an amino acid sequence comprising amino acid residues 36 to 189 of SEQ ID NO:2, (b) amino acid residues 1 to 189 of SEQ ID NO:2, (c) amino acid residues 36 to 313 of SEQ ID NO:2, (d) amino acid residues 336 to 753 of SEQ ID NO:2, (e) amino acid residues 36 to 753 of SEQ ID NO:2, (f) amino acid residues 1 to 753 of SEQ ID NO:2, (g) amino acid resides 1 to 299 of SEQ ID NO:8, (h) amino acid residues 36 to 299 of SEQ ID NO:8, (i) amino acid residues 36 to 175 of SEQ ID NO:8, (j) amino acid residues 1 to 300 of SEQ ID NO:12, and (k) amino acid residues 36 to 300 of SEQ ID NO:12.

2. The isolated polypeptide of claim 1, wherein the polypeptide comprises amino acid residues 1 to 189 of SEQ ID NO:2.

3. The isolated polypeptide of claim 1, wherein the polypeptide comprises amino acid residues 36 to 313 of SEQ ID NO:2.

4. An isolated nucleic acid molecule encoding a polypeptide that comprises an amino acid sequence selected from the group consisting of: (a) an amino acid sequence comprising amino acid residues 36 to 189 of SEQ ID NO:2, (b) amino acid residues 1 to 189 of SEQ ID NO:2, (c) amino acid residues 36 to 313 of SEQ ID NO:2, (d) amino acid residues 336 to 753 of SEQ ID NO:2, (e) amino acid residues 36 to 753 of SEQ ID NO:2, (f) amino acid residues 1 to 753 of SEQ ID NO:2, (g) amino acid resides 1 to 299 of SEQ ID NO:8, (h) amino acid residues 36 to 299 of SEQ ID NO:8, (i) amino acid residues 36 to 175 of SEQ ID NO:8, (j) amino acid residues 1 to 300 of SEQ ID NO:12, and (k) amino acid residues 36 to 300 of SEQ ID NO:12.

5. The isolated nucleic acid molecule of claim 4, comprising the nucleotide sequence of nucleotides 192 to 1024 of SEQ ID NO:1.

6. The isolated nucleic acid molecule of claim 4, comprising the nucleotide sequence of nucleotides 192 to 982 of SEQ ID NO:8.

7. The isolated nucleic acid molecule of claim 4, comprising the nucleotide sequence of nucleotides 206 to 1000 of SEQ ID NO:11.

8. A vector, comprising the isolated nucleic acid molecule of claim 4.

9. An expression vector, comprising a nucleic acid molecule that encodes amino acid residues 36 to 313 of SEQ ID NO:2, a transcription promoter, and a transcription terminator, wherein the promoter is operably linked with the nucleic acid molecule, and wherein the nucleic acid molecule is operably linked with the transcription terminator.

10. A recombinant host cell comprising the expression vector of claim 9, wherein the host cell is selected from the group consisting of bacterium, avian cell, yeast cell, fungal cell, insect cell, mammalian cell, and plant cell.

11. A method of using the expression vector of claim 9 to produce a polypeptide that comprises amino acid residues 36 to 313 of SEQ ID NO:2, comprising culturing recombinant host cells that comprise the expression vector and that produce the polypeptide.

12. The method of claim 11, further comprising isolating the polypeptide from the cultured recombinant host cells.

13. An antibody or antibody fragment that specifically binds with a polypeptide that has an amino acid sequence consisting of amino acid residues 1 to 189 of SEQ ID NO:2.

14. An anti-idiotype antibody that specifically binds with the antibody of claim 13.

15. A fusion protein, comprising the polypeptide of claim 1.

16. The fusion protein of claim 15, wherein the fusion protein further comprises an immunoglobulin moiety.

17. A composition, comprising the polypeptide of claim 1 and a carrier.